Mayabi Islam Summer 2013

Water, Energy, and Sustainability

Instructor: Shakira Castronova

Unit: Three States of Matter

Lesson: Water Use

Grade: 1

Background: In the first grade curriculum, there is a unit on the different states of matter. This lesson would be part of a series of lessons, which would further explore one of those components: water. Water as a vital form of matter and provides a foundation for life. This lesson will also show how water is connected to all life, which builds on the big idea of interconnectedness, the overarching theme that we have for all of our curriculums at school. Additionally, this lesson will start to build students’ awareness of water use and through more lessons and exploration on water usage, hopefully students can start to make more responsible choices when it comes to water use.

Professional: 3C from Danielson framework Competency 3C Engaging Students in Learning

I am working on this framework by having a range of activities that can help students be engaged. Students will be participating on an interactive concept map which serves as an anchor chart, as a whole class as well as with partners, there will be a read aloud where students can share their ideas with the whole class as well as peers, and students will be able apply what they’ve learned by making their own personal reflections at the end. This lesson also has several visual components, which help make the ideas more concrete for students, especially at the first grade level.

**K-8 Scope and Sequence**

PS 3.2a: Observe and describe the three states of matter:

**Elementary Science Core Curriculum Standard 4**

Describe the characteristics of and variations between living and nonliving things.

Major Understandings:

1.1a Animals need air, water, and food in order to live and thrive.

1.1b Plantsrequireair,water,nutrients,andlightinordertoliveandthrive.

**ELA Standards**

RL.2.11 Common Core Standards- Make connections between self, text, and the world around them (text, media, social interaction)

Big Idea:

Water is essential to all life forms on Earth.

Objectives:

* Students will be able to demonstrate understanding that water is essential to life on Earth. Plants and animals need water to live.
* Develop an awareness of responsible water use and sanitation.

Materials:

* Masking Tape
* Yarn
* Chart Paper or White Board
* Smart Board
* Water, Water Everywhere by Cynthia Overbeck Bix

Procedures:

Introduction:

Launch Google Earth at http://earth.google.com/.

1. Explain to children that one can view the three dimensional Earth from space. By moving the

mouse, you can use Google Earth to “fly” around the world, taking a virtual tour of its diverse land

and water features.

2. Ask children to describe what they see. Make a full rotation of the Earth so all surface features

are observed.

* What do you see?
* What colors and features do you notice?

3. Explain that planet Earth is sometimes called the Blue Planet because it has so much water on

its surface (representing 70 percent of the total surface area). Ask a student to point to all areas

of water on the globe.

4. Afterward, ask children to describe their experiences with water on a daily basis.

How do you use water?

* Where does our water for drinking, cooking, playing, and bathing come from?
* Have you seen bodies of water in nature? Where and when?
* If you have been to the ocean, did you taste the water? What did it taste like?

5. Reinforce that most of the water on the Earth’s surface is salty—and therefore cannot be used

by people for drinking, cooking, and bathing. Only a small amount of clean, safe water is

available for our use; this is called potable water.

Development

1. Introduce to the class the concept map—showing a reserved large wall space with water in

the center where ideas, photos, illustrations, and more items related to water will be displayed

throughout the unit of study.

2. Explain that just as books, poems, songs, and photographs can tell stories, so, too, can a

concept map “tell a story.” Using words and pictures, we will tell a story about water on Earth.

3. Point to the word water in the center of the concept map. Planet Earth is sometimes

called the Blue Planet because it is covered by a lot of water on its surface. Using yarn,

masking tape, or other appropriate material, makes a line connecting water to a photo of Earth

from space. Label the photo: Blue Planet.

4. Model aloud the process of creating the concept map on water: In the top, left-hand corner of the concept map, we will share our learning about the Earth, or the Blue Planet, and how living things need and use water. Here, I have connected “water” with “Blue Planet” because water covers a lot of the Earth’s surface.

* Do you remember what kind of water covers more than half of the Earth’s surface? That’s right, salty water. We should not drink salty water and it is not useful for bathing, cooking, or washing clothes or dishes. Connect “Blue Planet” with the glass showing 70 percent water. Apply the label “water on Earth.”
* How much of the Earth’s water can we drink? That’s right, very, very little. Connect the glass showing 70 percent water with the glass showing only a little water. Label this “fresh water (potable) on Earth.”

5. Read aloud Water, Water Everywhere.

6. During and following the reading, engage children in sharing their reactions and thoughts

through questions using turn and talk:

* Where is water on Earth? (Everywhere. In the ocean, in lakes, ponds, streams, rivers. Water is also underground; and it is in the sky as a gas where we cannot see it. Water is even in the bodies of plants and animals. Water is everywhere.)
* Why is water sometimes called Earth’s “most precious resource”? (Life on Earth depends on water).
* How do plants and animals use water? (Plants use water to grow and to live, keeping forests and gardens alive. Animals use water to drink and some, like fish and dolphins, live in water. As animals, people need water to live. We need clean water to drink, for cooking, washing, and bathing. People use water for traveling, to help make electricity, and even for playing.)
* What would happen if there was no water on Earth? (It would be very dry. All living things would die.)
* How does water change? (Water can be a liquid, a solid, or a gas. It can be very hot or very

cold, or a temperature in between. It can mix with other materials and change in color, taste, and other ways we cannot see.)

* What do people do to water that can be harmful or bad for people, living creatures, and the

Earth? (People may pollute water, or make it dirty. Also, some people may waste water,

such as by keeping water on while brushing teeth or by taking long showers.)

Independent/Group Work

1. Refer to the class concept map on water. Explain to students that working in pairs, they will start to finish the concept map that was started in class using what they just learned from the read-aloud. Who or what needs water on the “Blue Planet?” For each word that they put down on the concept map, they have to draw a picture alongside.

* Once students have finished working on their concept maps, they will work in their science journals and identify 3 different ways they use water. They have to draw a picture of how they use water for that specific example and then provide a caption for that picture. T

2. Encourage children to notice examples of how plants and animals use water in everyday life and

in books, magazines, television, or on the Internet. Explain that we will continue to add to the

concept map and our science journals as we learn about our Blue Planet.

3. Gather in a circle, have students bring their concept maps and journals, and share.

Resource:

http://teachunicef.org/sites/default/files/documents/water\_and\_sanitation\_prek\_to\_2.pdf

## Assessment

Students will be assessed based on their participation, interaction with peers, their concept maps and reflections in their journals.

Assessment Rubric:

1 = Weak 2 = Moderately Weak 3 = Average 4 = Moderately Strong 5 = Strong

1. The student comprehends that water is an essential component of life by providing examples of how they use water as well as any other living organisms.

1 2 3 4 5

2. The student responds and contributes to grouping/ pairing activities.

1 2 3 4 5

3. The student asks questions to clarify verbal information.

1 2 3 4 5

4. The student is able to state and/ or summarize what he /she learned from the lesson.

1 2 3 4 5

Extension:  
As a homework assignment, have students fill out a double sided chart on water use. Explain that they will be working with their parents and brainstorming at least five ways their family uses water at home and at least five ways their child uses water in the community. Encourage students to draw or take photographs (and label if possible) one or more examples of each. Photographs or illustrations will be added to the class concept map.